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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/928,673	08/13/2001	Thomas E. Miller	328 P 598	8170

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EXAMINER

NGUYEN, TUAN DUC

ART UNIT	PAPER NUMBER
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2643

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DATE MAILED: 05/08/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/928,673

Applicant(s)

MILLER, THOMAS E.

Examiner

Tuan D. Nguyen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 August 2001.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-40 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 37,39 and 40 is/are allowed.
- 6) ☒ Claim(s) 1, 2, 27-29,34-36 and 38 is/are rejected.
- 7) ☒ Claim(s) 3-26 and 30-33 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Objections

1. Claims 35 and 40 are objected to because of the following informalities:
"ban" in page 14 line 7 is misspelled. There is a grammatical error in page 15 line 18. Appropriate correction is required.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in-

- (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effect under this subsection of a national application published under section 122(b) only if the international application designating the United States was published under Article 21(2)(a) of such treaty in the English language; or
- (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that a patent shall not be deemed filed in the United States for the purposes of this subsection based on the filing of an international application filed under the treaty defined in section 351(a).

3. Claims 1, 27, 28, 34, 35 and 38 are rejected under 35 U.S.C. 102(e) as being anticipated by U.S. patent number 6,075,870 (Geschiere et al).

Regarding claim 1, Geschiere et al discloses an electroacoustic receiver for use in a hearing aid (column 1 lines 4-5) further including a power source, an audio input, and a signal processor wherein the receiver is driven with a switching signal having a carrier frequency, the electroacoustic receiver comprising: a pair of spaced permanent magnets (column 2 lines 57-58 items 5 and 7); a coil (column 2 line 53 item 3) having a tunnel (column 2 lines 56-61 items 4 and 6)

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therethrough, the coil (figure 1) comprising a conductive element having a thickness and formed into a winding, the winding including a plurality of spaced turns forming a plurality of winding layers, the plurality of spaced turns having a parasitic capacitance between individual turns and a predetermined winding pattern and a predetermined winding pitch for reducing the parasitic capacitance. Regarding claim 28, Geschiere et al discloses a method of reducing the current flow from and increasing the life of a battery provided in a hearing aid (column 1 lines 4-5) having an audio input, and a signal processor, the method comprising the steps of: providing an electroacoustic receiver driven by a switching signal having a carrier frequency, the receiver comprising a pair of spaced magnets (column 9 line 47), a coil (column 9 line 46) having a tunnel (column 9 lines 46) therethrough, and a reed armature (column 9 line 53) having a central portion (column 9 line 53) that extends through the coil; and reducing a parasitic capacitance exhibited by the receiver coil by providing a predetermined winding pattern of a conductive element (figure 1) including a plurality of successive turns forming a plurality of successive winding layers and a predetermined winding pitch.

Regarding claim 34, Geschiere et al also shows wherein the predetermined winding pattern is a bank winding (figure 1).

Regarding claims 27 and 35, Geschiere et al also shows wherein the bank winding comprises a second predetermined winding pattern comprising an end portion including a first layer of turns adjacent the tunnel and wound about the

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tunnel in a first direction along a length of the tunnel and a second layer of turns disposed radially outwardly from the first layer of turns and wound about the first layer of turns in a second direction along the length of the tunnel which is opposite to the first direction, the winding pattern further comprising a second portion including a plurality of turns forming a plurality of layers and progressing in the first direction along the length of the tunnel (figure 1).

Regarding claim 38, Geschiere et al discloses an electroacoustic receiver comprising: a pair of spaced permanent magnets (column 9 line 47); a coil (column 9 line 46) having a tunnel (column 9 lines 46) therethrough, the coil (figure 1) comprising a winding of a wire, the winding having an end portion formed by a first plurality of individual turns originating at a point adjacent the tunnel and expanding radially outwardly to form a boundary layer, thereafter the wire being wound in second succession of individual turns to form a plurality of horizontally disposed layers; and a reed armature (column 9 line 53) having a central portion (column 9 line 53) which extends through the coil.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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5. Claims 2, 29 and 36 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. patent number 6,075,870 (Geschiere et al) in view of U.S. patent number 3,873,784 (Doschek).

Regarding claims 2, 29 and 36, Geschiere et al does not disclose wherein a space between individual turns is at least three times the thickness of the wire. However, Doschek discloses varying the spacing between turns of the electric conductor means (column 3 lines 29-35).

Therefore, it would have been obvious to a one of ordinary skill in the art at the time of the invention was made to use the wire winding pattern by Doschek in Geschiere et al for controlling the winding pitch.

Allowable Subject Matter

6. Claims 3-26 and 30-33 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claims 37, 39 and 40 are allowed.

The following is an examiner's statement of reasons for allowance: The prior art of record teaches various structures of acoustic transducer thereon, for example U.S. patent number 6,075,870. However, the prior art of record fails to show an insulating material between successive layers of the plurality of winding layers; the predetermined winding pattern comprises a plurality of electrically connected

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spaced winding modules each module comprising a plurality of individual turns forming a plurality of individual layers; an insulating film wrapped about the conductive element; and the coil a plurality of alternating turns of conductive material and non-conductive material.

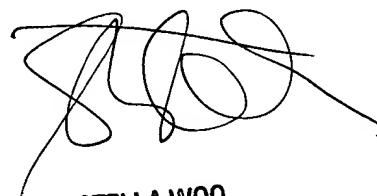
Conclusion

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tuan D. Nguyen whose telephone number is (703) 305-7168. The examiner can normally be reached on M-F 8:15-4:45.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Curt Kuntz can be reached on (703) 305-4708. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9314 for regular communications and (703) 872-9314 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-3900.

TDN
May 5, 2003



STELLA WOO
PRIMARY EXAMINER